

Algebra 1 Chapter 8 Test Review

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. Write the product using exponents:  $w \cdot w \cdot w \cdot w \cdot w \cdot w \cdot w$

[A]  $7^w$

[B]  $7w$

[C]  $w^7$

[D] none of these

[1] \_\_\_\_\_

2. Which is the value of  $2^4$ ?

[A] 16

[B] 24

[C] 32

[D] 8

[2] \_\_\_\_\_

3. What is the value of  $10^3$ ?

[3] \_\_\_\_\_

Simplify:

4.  $a^3 \cdot a^5$

[A]  $a^{15}$

[B]  $a^8$

[C]  $2a^2$

[D]  $2a^8$

[4] \_\_\_\_\_

5.  $3^3 \cdot 3^6$

[A]  $3^9$

[B]  $3^{18}$

[C]  $9^9$

[D]  $3^3$

[5] \_\_\_\_\_

6.  $b^4 \cdot b^9$

[6] \_\_\_\_\_

7. Simplify the product. Leave the product in exponent form.

$4^2 \cdot 4^4$

[7] \_\_\_\_\_

Simplify:

8.  $(x)(-8x^7)(x^6)$  [A]  $-6x^{42}$  [B]  $-8x^{42}$  [C]  $-8x^{14}$  [D]  $-6x^{14}$   
[8] \_\_\_\_\_

9.  $(8t^2u^2)(9tu^3)$  [A]  $-72t^2u^3$  [B]  $72t^2u^6$  [C]  $72t^3u^5$  [D]  $-72t^3u^5$   
[9] \_\_\_\_\_

10.  $(3x^4y^4)(-5xy^4)$   
[10] \_\_\_\_\_

11.  $(-h^3)^2$  [A]  $h^5$  [B]  $h^{3/2}$  [C]  $-h^9$  [D]  $h^6$   
[11] \_\_\_\_\_

12. Which is the value of  $(10^3)^3$ ?  
[A] 1,000,000,000 [B] 27,000 [C] 1,000,000 [D] 100,000  
[12] \_\_\_\_\_

13. Find the value of the expression.  
 $(2^2)^4$   
[13] \_\_\_\_\_

Simplify:

14.  $(b^5)^8$   
[14] \_\_\_\_\_

Simplify:

15.  $(3xy^3)^3(-5x^2y^4)^3$

[A]  $-98x^9y^{13}$

[B]  $-3375x^9y^{13}$

[C]  $-98x^9y^{21}$

[D]  $-3375x^9y^{21}$

[15] \_\_\_\_\_

16.  $3(-4e^2)^3$

[A]  $-192e^6$

[B]  $-192e^5$

[C]  $-1728e^6$

[D]  $-1728e^5$

[16] \_\_\_\_\_

17.  $(-3e^6f^4g^5)^3$

[17] \_\_\_\_\_

18. Evaluate  $ka^e$ , for  $k = 3$ ,  $a = 10$ , and  $e = 2$ .

[18] \_\_\_\_\_

Use the Quotient-of-Powers Property to simplify the quotient.

19.  $-\frac{r^3s^3t^3}{rst}$

[A]  $-r^2s^2t^2$

[B]  $\frac{1}{r^2s^2t^2}$

[C]  $r^2s^2t^2$

[D]  $-r^4s^4t^4$

[19] \_\_\_\_\_

20.  $\frac{-24x^4y^5}{-8x^3y}$

[A]  $-3xy^4$

[B]  $2x^7y^6$

[C]  $3xy^4$

[D]  $-2x^7y^6$

[20] \_\_\_\_\_

21.  $\frac{1.6d^{14}e^{17}}{8(de)^{10}}$

[21] \_\_\_\_\_

22. Use the Quotient-of-Powers Property to simplify the quotient. Then find the value of the result.

$$\frac{6^{11}}{6^8}$$

[22] \_\_\_\_\_

Simplify the expression. Assume that the conditions of the Quotient-of-Powers Property are met.

23.  $\left(\frac{5a^5b^6}{4a^2b^3}\right)^5$  [A]  $\frac{5a^{15}b^{15}}{4}$  [B]  $\frac{3125a^{15}b^{15}}{1024}$  [C]  $\frac{3125a^8b^8}{1024}$  [D]  $\frac{5a^8b^8}{4}$

[23] \_\_\_\_\_

24.  $\left(\frac{y^5}{z^2}\right)^6$  [A]  $\frac{y^{30}}{z^2}$  [B]  $\frac{y^{30}}{z^{12}}$  [C]  $\frac{y^{11}}{z^8}$  [D]  $\frac{y^{11}}{z^2}$

[24] \_\_\_\_\_

25.  $\left(\frac{3}{5}\right)^3$

[25] \_\_\_\_\_

26.  $\left(\frac{6a^5b^2}{c^6}\right)^m$

[26] \_\_\_\_\_

Evaluate the expression.

27.  $2^{-3} \cdot 2^0$  [A]  $-6$  [B]  $8$  [C]  $\frac{1}{8}$  [D]  $0$

[27] \_\_\_\_\_

Evaluate the expression.

28.  $4^0$       [A] 4      [B]  $\frac{1}{4}$       [C] 0      [D] 1

[28] \_\_\_\_\_

29.  $\frac{2^0}{2^2}$

[29] \_\_\_\_\_

30. Simplify and write the expression with positive exponents only:  $8x^0y^{-1}$

[30] \_\_\_\_\_

Write the following without negative or zero exponents.

31.  $x^0 x^{-12}$       [A]  $x^{12}$       [B]  $x^0$       [C]  $\frac{1}{x^{12}}$       [D]  $\frac{1}{x^{11}}$

[31] \_\_\_\_\_

32.  $\frac{x^{-2}}{x^{-8}}$       [A]  $\frac{1}{x^{10}}$       [B]  $x^6$       [C]  $\frac{1}{x^6}$       [D]  $x^{10}$

[32] \_\_\_\_\_

33.  $\frac{2a^{-2}b^{-2}}{4a^3b^{-3}}$

[33] \_\_\_\_\_

34.  $\frac{20a^4b^4c^{-6}}{4a^0b^{-3}c^5}$

[34] \_\_\_\_\_